Hierarchical Assemblies of Bismuth Titanate Complex Architectures and Their Visible-Light Photocatalytic Activities

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1. XRD patterns of Bi$_{12}$TiO$_{20}$ microflowers and nanowires after their visible-light irradiation. (0.125 mmol PVA and pH=14). a) 150 °C; b) 180 °C for 24 h.
2. At the fixed pH value of 14, in the presence of 0.125 mmol PVA, the morphology obtained at 150 °C for 36 h can be described as sphere-like structures. SEM images of the Bi$_{12}$TiO$_{20}$ microspheres with little parts of nanowires on their surface.

(a)

(b)
3. At the fixed pH value of 14, in the presence of 0.125 mmol PVA, the morphology obtained at 150 °C for 48 h can be described as sphere-like structures. SEM images of the Bi$_{12}$TiO$_{20}$ microspheres without any nanowires on their surface. a) Overall product morphology; b) Enlarged SEM image of the sphere-like morphology.
4. At the fixed pH value of 14, in the presence of 0.125 mmol PVA, the morphology obtained at 180 °C for 4 h can be described as urchin-like structures. SEM images of the Bi$_{12}$TiO$_{20}$ architecture made up of nanowires.

a) Overall product morphology; b) Enlarged SEM image of the sphere-like morphology.
5. At the fixed pH value of 14, in the presence of 0.125 mmol PVA, the morphology obtained at 180 °C for 36 h can be described as mixtures. SEM image of the Bi$_{12}$TiO$_{20}$ architecture made up of lots of nanowires and little parts of microspheres.

6. At the fixed pH value of 14, in the presence of 0.125 mmol PVA, the morphology obtained at 180 °C for 48 h can be described as mixtures. SEM image of the Bi$_{12}$TiO$_{20}$ architecture made up of microspheres and little of nanowires.